

IN THE CLAIMS:

Please cancel Claims 2-37 without prejudice.

Please add the following claims:

38. A recombinant or synthetic peptide or chemical equivalent thereof consisting of the formula:

$X_1 X_2 X_3$

wherein  $X_1$  and  $X_3$  may be the same or different and each is an amino acid sequence consisting of from 0 to 40 naturally or non-naturally occurring amino acid residues;  $X_2$  is any amino acid sequence of 100 residues derived from, homologous to or contiguous within amino acids 506 to 518 inclusive or derivatives thereof of human GAD65 or amino acids 24 to 36 inclusive or derivatives thereof of human proinsulin; and wherein said peptide or chemical equivalent thereof is capable of reacting with T cells and modifying T-cell function when incubated with cells from subjects with pre-clinical or clinical Insulin-Dependent Diabetes Mellitus (IDDM).

39. A recombinant or synthetic peptide or chemical equivalent thereof consisting of the formula:

$X_1 X_2 X_3$

wherein  $X_1$  and  $X_3$  may be the same or different and each is an amino acid sequence consisting of from 0 to 15 naturally or non-naturally occurring amino acid residues;  $X_2$  is any amino acid sequence of from 10 to 15 residues derived from, homologous to or contiguous within amino acids 506 to 518 inclusive or derivatives

thereof of human GAD65 or amino acids 24 to 36 inclusive or derivatives thereof of human proinsulin; and wherein said peptide or chemical equivalent thereof is capable of reacting with T cells and modifying T-cell function when incubated with cells from subjects with pre-clinical or clinical Insulin-Dependent Diabetes Mellitus (IDDM).

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*12*  
40. A recombinant or synthetic peptide or chemical equivalent thereof consisting of the sequence:

$X_1 X_2 X_3$

wherein  $X_1$  and  $X_3$  may be the same or different and each is an amino acid sequence consisting of from 0 to 15 naturally or non-naturally occurring amino acid residues;  $X_2$  is selected from FFYTPKTRREAED (SEQ ID NO:1) and FWYIPPSLRTLED (SEQ ID NO:2) or (a) derivative or chemical equivalent thereof and wherein said peptide is capable of reacting with T cells and modifying T-cell function when incubated with cells from subjects having pre-clinical or clinical IDDM.

41. A method of treatment comprising administering to a subject an effective amount of a peptide or chemical equivalent thereof for a time and under conditions sufficient to remove or substantially reduce the presence in said subject of autoreactive T-cells and/or autoantibodies to IDDM autoantigens wherein the peptide consists of the formula:

$X_1 X_2 X_3$

28

wherein  $X_1$  and  $X_2$  may be the same or different and each is an amino acid sequence consisting of from 0 to 40 naturally or non-naturally occurring amino acid residues;  $X_2$  is any amino acid sequence of 100 residues derived from, homologous to or contiguous within amino acids 506 to 518 inclusive or derivatives thereof of human GAD65 or amino acids 24 to 36 inclusive or derivatives thereof of human proinsulin; and wherein said peptide molecule is capable of reacting or modifying T-cell function when incubated with cells from subjects having pre-clinical or clinical Insulin-Dependent Diabetes Mellitus (IDDM).

42. A method of treatment comprising administering to a subject an effective amount of a peptide or chemical equivalent thereof for a time and under conditions sufficient to remove or substantially reduce the presence in said subject of autoreactive T-cells and/or autoantibodies to IDDM autoantigens wherein the peptide consists of the formula:



wherein  $X_1$  and  $X_3$  may be the same or different and each is an amino acid sequence consisting of from 0 to 15 naturally or non-naturally occurring amino acid residues;  $X_2$  is any amino acid sequence of from 10 to 15 residues derived from, homologous to or contiguous within amino acids 506 to 518 inclusive or derivatives thereof of human GAD65 or amino acids 24 to 36 inclusive or derivatives thereof of human proinsulin; and wherein said peptide or chemical equivalent thereof is capable of reacting with T cells and modifying T-cell function when incubated with cells from